



**CONESTOGA-ROVERS
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May 18, 2012

Reference No. 038443-62

Ms. Karen Cibulskis
Remedial Project Manager
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Mail Code SR-6J
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Explosive Gas Mitigation Work Plan (Work Plan) for
Building 1, Parcel 5172, 2015 Dryden Road (S&J Precision)
Vapor Intrusion Investigation
South Dayton Dump and Landfill Site (Site), Moraine, Ohio

This Work Plan details mitigation measures that will be completed to address volatile organic compound (VOC) concentrations detected in indoor air at the above building. Conestoga-Rovers & Associates (CRA) has prepared this Work Plan in accordance with the United States Environmental Protection Agency (USEPA) Vapor Intrusion Investigation Work Plan (USEPA, November 2011) and the USEPA Region 5 Vapor Intrusion Guidebook (USEPA, 2010) (USEPA Region 5 Guidance). CRA has also prepared this work plan to comply with the substantive requirements of Ohio Administrative Code (OAC) 3745-27-12 with respect to permanent monitoring for explosive gases in buildings located within the limits of waste. CRA has prepared this Work Plan on behalf of the Respondents to the Administrative Settlement Agreement and Order on Consent (ASAOC) with USEPA for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-06-C-852 (Respondents).

As the S&J Precision building requiring mitigation is situated on property that is owned and occupied by third parties, coordination of mitigation work with the owner and tenants is important, and any mitigation systems that are eventually installed will require their consent and the design of the mitigation system(s) will need to be consistent with on-going operations.

1.0 BACKGROUND

Pursuant to the ASAOC with USEPA, the Respondents installed sub-slab (SS) soil vapor probes at the Site in December 2011, performed one round of monitoring (Round 1) in January 2012, and one follow-up round of monitoring (Round 1 follow-up) in March 2012.



In January 2012, the Respondents collected sub-slab soil vapor samples to determine if compounds are present in soil vapor beneath on-Site and nearby building foundations, and floor slabs at concentrations sufficient to create the potential for contaminants to migrate into the indoor air of Site buildings at levels posing an unacceptable risk to building occupants. A summary of January 2012 S&J Precision sub-slab soil vapor analytical results, compared to the applicable screening levels, is presented in Table 1. The following table presents a summary of January 2012 S&J Precision building sub-slab soil vapor VOC concentrations that were greater than Industrial Soil Vapor Screening Levels (SVSLs) for Further Investigation, corresponding to a target excess life-time cancer risk (ELCR) of 10^{-6} or Hazard Index (HI) of 0.1 in indoor air, assuming a default attenuation factor (DAF) equal to 0.1:

<i>S&J Precision SS Probe Location</i>	<i>Analyte</i>	<i>Concentration ($\mu\text{g}/\text{m}^3$)</i>	<i>Industrial SVSL for Further Investigation (DAF=0.1)</i>	
			<i>ELCR of 10^{-6}</i>	<i>HI = 0.1</i>
A	Chloroform	43 J	5.3	430
	Trichloroethene	7,100	30	8.8
B	Chloroform	120 J	5.3	430
	cis-1,2-Dichloroethene	2,300	NV	260
	trans-1,2-Dichloroethene	850	NV	260
	Trichloroethene	30,000	30	8.8
C	Trichloroethene	1,200	30	8.8
D	Chloroform	120	5.3	430
	cis-1,2-Dichloroethene	970	NV	260
	trans-1,2-Dichloroethene	590	NV	260
	Trichloroethene	6,300	30	8.8

Notes:

$\mu\text{g}/\text{m}^3$ – microgram per cubic meter

J – Estimated quantity

NV – No Value

As sub-slab soil vapor VOC concentrations were greater than industrial SVSLs for further investigation, the Respondents collected follow-up samples of indoor air with concurrent sub-slab soil vapor samples. Follow-up sampling was completed to determine if indoor air VOC concentrations are greater than indoor air screening levels (IASLs) for mitigation, due to the VI pathway. The follow-up sub-slab soil vapor results were compared to USEPA SVSLs for Monitoring (i.e., for use with IASLs to determine if on-going monitoring is necessary). A summary of March 2012 S&J Precision building sub-slab soil vapor analytical results, compared



to the applicable screening levels, is presented in Table 2. The following table presents a summary of March 2012 S&J Precision building sub-slab soil vapor VOC concentrations that were greater than Industrial SVSLs for Monitoring, corresponding to a target ELCR of 10^{-5} or HI of 1 in indoor air, assuming a DAF equal to 0.1:

<i>S&J Precision Building SS Probe Location</i>	<i>Analyte</i>	<i>Concentration ($\mu\text{g}/\text{m}^3$)</i>	<i>Industrial SVSL for Monitoring (DAF=0.1)</i>	
			<i>ELCR of 10^{-5}</i>	<i>HI = 1</i>
A	Trichloroethene	7,600 / 7,700	300	88
B	Chloroform	150 J	53	4,300
	Trichloroethene	30,000	300	88
C	Trichloroethene	950	300	88
D	Chloroform	110	53	4,300
	Trichloroethene	5,000	300	88

Notes:

$\mu\text{g}/\text{m}^3$ – microgram per cubic meter

7,600 / 7,700 – Result / Duplicate Result

J – Estimated quantity

NV – No Value

A summary of March 2012 S&J Precision building indoor air analytical results, compared to applicable screening levels, is presented in Table 3. The following table presents a summary of March 2012 S&J Precision building indoor air VOC concentrations that were greater than Industrial IASLs for Mitigation, corresponding to a target ELCR of 10^{-5} or HI of 1 in indoor air:

<i>S&J Precision Building Indoor Air Sample Location</i>	<i>Analyte</i>	<i>Concentration ($\mu\text{g}/\text{m}^3$)</i>	<i>Industrial IASL for Mitigation</i>	
			<i>ELCR of 10^{-5}</i>	<i>HI = 1</i>
IA_A	Trichloroethene	14	30	8.8
IA_D	Trichloroethene	17	30	8.8

Note:

$\mu\text{g}/\text{m}^3$ – microgram per cubic meter

Vapor attenuation refers to the reduction in concentration of volatile substances that occurs during vapor migration in the subsurface, coupled with the dilution that can occur when the



vapors enter a building a mix with indoor air¹. A vapor intrusion attenuation factor is the inverse measurement of the overall dilution that occurs as vapors migrate from a subsurface source into a building¹. In March 2012, the Respondents collected collocated indoor air and sub-slab soil vapor samples from for radon analysis from S&J Precision building. The Respondents completed radon sampling because i) Round 1 SS sample results contained VOCs at concentrations greater than applicable screening levels, and ii) S&J Precision building has the potential for contamination of indoor air sample results due to chemical use in the building. Radon is a naturally formed radioactive gas, and is suitable for use as a line of evidence as the source of most radon is the ground beneath buildings. The Respondents calculated building attenuation factors between sub-slab soil vapor and indoor air using radon concentrations. The following table presents a summary of March 2012 S&J Precision building radon concentrations, and associated attenuation factors:

<i>S&J Precision Building Sample Location</i>	<i>Radon Concentration (pCi/L)</i>	<i>Attenuation Factor</i>	<i>Average Building Attenuation Factor</i>
IA_A	1.79	0.009	0.007
A	206		
IA_C	1.98	0.006	
C	355		
IA_D	2.06	0.005	
D	449		

Note:

pCi/L – picocuries per Liter

Concentrations of TCE in sub-slab soil vapor and indoor air samples were greater than applicable screening levels. The ratio of TCE concentrations in indoor air to sub-slab soil vapor samples corresponded to the attenuation factors calculated based on radon data, indicating the indoor air TCE concentrations were likely due to vapor intrusion.

Summaries of S&J Precision of sub-slab soil vapor and indoor air vapor intrusion analytical results, compared to the applicable screening levels, are presented in Tables 1, 2, and 3. Figure 1 presents the sub-slab soil vapor and indoor air concentrations that were greater than applicable screening levels.

¹ USEPA. 2012. *EPA's Vapor Intrusion Database: Evaluation and Characterization of Attenuation Factors for Chlorinated Volatile Organic Compounds and Residential Buildings*. EPA/530-R-10-002. Office of Solid Waste and Emergency Response. Washington, D.C. March.



Chloroform was detected at a concentration greater than applicable criteria in a groundwater sample collected from monitoring well MW-208 (located approximately 6 feet (ft) north of the building). cis-1,2-Dichloroethene and trichloroethene were detected at concentrations greater than applicable criteria in groundwater samples collected from vertical aquifer sampling location VAS-8 (located approximately 32 ft northwest of the building). The locations of the referenced investigative locations are presented on Figure 1.

As the TCE concentrations in sub-slab soil vapor and indoor air samples collected from the S&J Precision building were greater than applicable criteria, this mitigation work plan discusses the mitigation system design and installation process, and identifies the monitoring, reporting, and schedule associated with the work.

2.0 BUILDING CONDITIONS

In order to implement appropriate vapor intrusion engineering control measures, the building structure, including use, type of foundation, and type of heating/cooling/ventilation systems, must be understood.

The floor slab of a building can act as a barrier or avenue to VI. A slab that is in poor condition (i.e., cracked; unsealed; un-caulked floor, wall, or expansion joints) and is constructed of permeable material will permit more VI. An effectively sealed or well constructed slab in good condition will inhibit upward flow of sub-slab vapors. The presence of a barrier such as a vapor barrier beneath the slab, or in the form of a floor coating will also inhibit VI.

Another factor affecting vapor intrusion is a forced air heating system that draws cold air from within a building to be heated and returned to the indoor environment. This type of heating system can cause a negative pressure within the occupied space when operating, causing sub-slab soil vapors to more readily enter the heated space. This is especially true if cold air returns are blocked or not adequately sized for the blower fan.

The tendency to over-insulate and effectively weatherproof a building can contribute to less ventilation of the indoor area, and lead to the accumulation of contaminants in the indoor air space.

Conversely, an indoor space that is not heated, has exterior walls that are not well sealed, has roof-top air exchange vents, or a number of large doors which are in use (such as a warehouse or older industrial space) leads to the continual exchange of indoor air with air from outside the building, which is effective in preventing vapors from accumulating within a building.



The building is a single-story industrial-use building, constructed in the 1950s. The building is divided into two equal sections: north and south sides, with a total footprint of 11,600 square feet (ft²). S&J Precision occupies the north portion of the building.

The building is concrete block with brick front. The building has a concrete slab-on grade. The ceilings are 16 ft high. Exterior openings include utility pipe penetrations, windows, and personnel and bay doors.

The S&J Precision building is mainly comprised of a metal working shop with a warehouse and some office space. The shop and warehouse have bare concrete floors; there are visible cracks in areas. The building floor contains two floor drains. The rear drain and warehouse floor are stained. The office space on the north side has an elevated floor with floor tile (likely containing asbestos) and wall-to-wall carpeting on top.

The building is centrally heated by a forced air natural gas furnace. Central A/C is also present. The building is not insulated, is relatively air tight, with sealed windows. The building is occupied weekdays from 6 a.m. to 5 p.m. by five adult workers.

The Respondents installed sub-slab soil vapor Probe A along the cinder block wall that partitions the building, SS Probe B outside a modular office, SS Probe C at the north end of the shop and warehouse, and SS Probe D outside the break area. The SS probe locations are presented on Figure 1.

The Respondents completed a survey of potential indoor VOC sources in March 2012. The potential sources of VOCs in S&J Precision building included: five gallon containers of Mobilcut 102 and Vactra Oil No. 2, propane, power steering fluid, primer, sealer, emulsion, kerosene, and un-capped five gallon containers with unknown liquid contents. The VOC contents of these products include: petroleum oil, propane, n-Heptane, ethanol, isopropanol, methanol, acetone, xylenes, and isopropyl alcohol. On previous Site visits, a can of Perchloroethylene was observed at S&J Precision.

3.0 PLANNED MITIGATION MEASURES

The suitability of mitigation techniques depends partly on the permeability of the soil and the construction details of the building. The building construction details are discussed above and the physical characteristics of the soil are discussed below. Based on the MW-208 and VAS-8 investigative locations in the vicinity of the building, the underlying stratigraphy consists of fine, silty sand fill, few foundry-type sand lens, and below 9.5 feet below ground surface (ft bgs), native sand and gravel material. Native material consists of well-graded, fine- to medium-grained sand and gravel. During advancement of VAS-8, the Respondents



encountered dense, moist, till layers at depths of 29.5, 57.5 and 76 ft bgs. The Respondents also encountered trace brick, metal debris, and foundry sand slag at a depth of 7.5 ft bgs, and a 3-inch slightly oxidized lens at a depth of 18.5 ft bgs. Generally, the soil and waste material beneath the Site does not present a barrier to subsurface gas migration, with the exception of the till layers. Small areas of finer-grained material may present local barriers to gas migration.

The mitigation measures to be implemented are detailed below.

3.1 EXPLOSIVE GAS MONITORING SYSTEM

The Respondents propose to install explosive gas alarms within the S&J Precision building, dependent upon the consent of the owner. The explosive gas alarm system will consist of explosive gas sensors within the building that are designed to be readable from the building exterior and will alarm should concentrations of explosive gases within the building exceed 25 percent of the LEL (1.25 percent methane by volume). The Respondents propose to install one sensor in the vicinity of SS Probe B, by the modular office, and one sensor in the vicinity of SS Probe A, by the cinder block wall partition. The Respondents propose to install Sierra Monitoring Corporation (Sierra) Smart Infrared IR Combustible Gas Sensor Modules, Model 5100-28-IT, or equivalent, for the explosive gas sensor. The explosive gas alarms will be checked and maintained at the frequency recommended by the manufacturer. The alarms and readouts will be positioned such that any alarm will be audible or visible to persons prior to their entry to the building. The explosive gas alarm system meets the requirements of OAC 3745-27-12. As the building is located within the limits of waste, requirements of OAC 3745-27-12(E) with respect to additional monitoring of permanent monitors located between the waste and the building are not applicable. Respondents will notify USEPA, Ohio EPA, and the local health district of any exceedance of threshold limits, in accordance with the requirements of OAC 3745-27-12.

3.2 PROPOSED MITIGATION TECHNIQUES

Vapor intrusion mitigation can be implemented from a single remedy or combination of remedies. The proposed mitigation steps for the building are based on building controls and are discussed in further detail below. An iterative approach, up to and including sub-slab depressurization, if necessary, is proposed.



3.3 BUILDING CONTROLS

Building control remedies may reduce or eliminate the potential for vapor intrusion in buildings by preventing vapors present in the sub-slab from entering the indoor air of the building or increasing the flow rate of uncontaminated outdoor air into the building.

Potential applicable mitigation measures (as per USEPA Region 5 Guidance and Ohio EPA Guidance), include:

- Changing the pressurization of the building
- Increasing ventilation in the building
- Sealing cracks on concrete floors
- Sub-slab depressurization

The Respondents will recommend to the property owner and tenant that positive indoor pressurization be implemented. As detailed in the USEPA Region 5 Guidance, this method is used in commercial and industrial buildings where HVAC systems bring in outdoor ventilation air. Outdoor ventilation is frequently decreased to levels that would not provide adequate positive pressure to prevent VI.

In order to identify and seal all floor cracks and other vapor entry points through the slab, the Respondents will work with the building owner and tenant to have all contents removed, if possible. The Respondents will seal all cracks, if possible, in accordance with the following methods:

- All floor surfaces that are currently unsealed will be cleaned using a wet/dry vacuum prior to applying sealant. A wire brush may be used to loosen dirt or debris prior to vacuuming. Surfaces will be cleaned of all dirt, debris, oil and grease, and dried prior to sealing.
- Open cracks will be routed and sealed with hydraulic cement, or other VOC-free sealant.

Should the previously discussed mitigation measures not result in a reduction of indoor air contaminant concentrations to less than applicable criteria, the Respondents will design, install, maintain, and monitor a mitigation system. The mitigation system will consist of an active venting system designed to remove the vapors from the sub-slab environment before the vapors can enter the building. The mitigation system will reduce or eliminate the VI exposure pathway, thereby reducing or eliminating potential future exposures associated with this pathway.

Active venting is fairly easily implemented and is a technology that can readily be implemented in existing buildings. Active venting, such as sub-slab depressurization, uses a fan to



continually draw air from the sub-slab and to exhaust the explosive gases to the atmosphere where they do not represent a threat.

The proposed scope of work for a sub-slab depressurization system (SSDS) will include:

- i) Perform Communication Testing
- ii) Design SSDS
- iii) Install SSDS
- iv) Perform Maintenance and Monitoring

3.3.1 TASK 1 - PERFORM COMMUNICATION TESTING

A design engineer will complete communication testing (also commonly called diagnostic testing) to evaluate the effectiveness of an SSDS prior to installation. This test will measure the radius of a suction field and assess the ability of air flow to extend through the sub-slab material. In the communication test, a centrally located hole is drilled through the concrete slab and suction is applied to this point using a high-flow/low-vacuum blower or fan capable of a sustainable flow rate of 100 to 1,000 liters per minute (L/min) against a vacuum of 5 to 50 inches of water column (developed using a high vacuum radon fan or Shop-Vac®-type vacuum). The design engineer will drill observations points (to supplement existing points) at various locations throughout the floor slab. Pressure changes in the sub-slab will be measured at the observation points, using a digital manometer or other similar device. Non-sparking equipment will be used to drill all locations required for communication testing. Combustible gas levels will be constantly monitored during all drilling activities.

A smoke test can also be performed at this time to confirm pressure measurements and to locate additional openings in the slab (cracks, joints, gaps, drain holes, etc.) that were not identified during the visual inspection and crack sealing discussed above. An inert, non-toxic, artificially created smoke unit will be used for leak detection, in order to avoid explosion hazards. Multiple suction points will be necessary for the testing of the S&J Precision building, due to the size and complexity of the building. Following the tests, the test openings will be sealed to prevent VI, and to increase the effectiveness of the SSDS.

3.3.2 TASK 2 - DESIGN SUB-SLAB DEPRESSURIZATION SYSTEM

The information obtained from the Building Physical Survey, sub-slab probe installation, and communication testing will be used to prepare conceptual layout design drawings. The system design will include the number and location of suction points, pipe routing, discharge point(s),



fan location(s), and fan sizing. The Respondents will consult with the property owner and tenant for input on their preferences for system component locations. The design drawings will be prepared to a level acceptable for use for contractor bidding purposes. The design will be based on industry standards and manufacturer information regarding equipment performance for an active depressurization system.

Following completion of design, a Mitigation System Design Report will be submitted for USEPA approval. This design report will contain the following information:

- Data from the vacuum-radius of influence testing, including sub-slab vacuum and flow measurements
- Figure(s) showing the number of proposed extraction locations and performance monitoring points
- Figure(s) showing the planned route for the discharge piping system(s) and the location of the exhaust fan(s) for each building
- Identification of materials and equipment to be used for each system (piping, blower sizing, vacuum monitoring, valving, etc.)
- Procedures for startup and performance testing following system installation
- Proposed operational goals and objectives including radius of influence and vacuum field monitoring point vacuums

A visual inspection will be completed to verify that no air intakes have been located near the proposed exhaust discharge point(s).

Following receipt of approvals from the property owner, tenant(s), and USEPA on the mitigation system design, the Respondents will solicit contractor proposals, and undertake contractor procurement.

3.3.3 TASK 3 - INSTALL THE SSDS

Any permitting requirements identified as part of the design phase and any required permits will be applied for and obtained prior to installation of startup of the SSDS consistent with state and local requirements. Any electrical installation; roof, floor, and wall penetrations; epoxy coatings; and horizontal piping will be installed by licensed, bonded, and insured installers. The system installation will be completed by a State of Ohio Department of Health-licensed and insured Radon Mitigation Contractor/Specialist who will perform all work in compliance with local code requirements. The contractor will install the SSDS following methods outlined in ASTM E212-11, "Standard Practice for Installing Radon Mitigation Systems in Existing Low-Rise Residential Buildings".



The exact design details will not be known until Tasks 1 and 2 have been completed, but a general discussion of the anticipated VI mitigation system is described below.

The SSDS may consist of multiple vapor recovery points. Either multiple fans or larger blowers connected to multiple extraction points will be installed outside the building. The fans or blowers will pull a vacuum from the vapor recovery points. The vapors will discharge to the outdoor air above the building roof. As methane is lighter than air, discharging the gases above the roof ensures that methane will not create a localized explosion hazard near the ground surface where potential ignition sources could ignite it. A sample port and an air-velocity monitoring access point will be installed in the discharge pipe at least two feet away from any constrictions (i.e., bends, elbows, etc.) and after (i.e., above) the fan. A common external fuse panel will be installed to power the SSDS system(s). The weatherproof panel will provide an uninterruptable power source, and be secured with a lock and tamper-proof box. Equipment used to install the SSDS will be intrinsically safe, because of the potential explosive situation.

Permanent vacuum monitoring points will be installed on each system, on the extraction side of the fan. A permanent vacuum gauge will consist of a "U-tube" manometer, or similar device, with a minimum vacuum of 1 inch of water. The permanent vacuum monitoring points will document that the sub-slab beneath the entire building has been depressurized. The Respondents will verify that manometer vacuum is in the range of 1 to 4 inches of water, and will mark the operating vacuum on the manometer.

An SSDS vacuum greater than 4 inches of water may result in suction of air from a contaminated plume and suction of VOCs towards the building.

Following the installation of the SSDS, the radius of influence will be checked using a digital manometer to determine if a vacuum is applied across the entire building slab. The digital manometer can be used at the sub-slab soil vapor probe locations, provided that they are located on opposite sides of the slab from the suction point. Additional sub-slab depressurization points and monitoring points can be installed if the resulting vacuum proves insufficient.

The following information will be recorded to define the operating performance of the SSDS:

- Location of the sub-slab sample points
- Initial sub-slab pressure field measurements
- Static pressure at each permanent vacuum monitoring point (U-tube manometer readings)
- Static pressure at the fan inlet



The Respondents will review the system components with the property owner and/or tenant following completion of system installation. If the property owner or tenant notices damage to the SSDS or the system is not functioning within the range marked on the permanent vacuum monitoring points, they will be able to call a CRA contact. Labels on the system components will list a telephone number for a CRA contact.

Any gaps around the extraction point penetration, utility penetrations, and other cracks in the foundation floor will be appropriately sealed.

3.3.4 TASK 4- PERFORM MAINTENANCE AND MONITORING

3.3.4.1 MAINTENANCE OF THE SSDS

An operation, maintenance, and monitoring (OM&M) plan will be completed within 1 month of system start-up. The OM&M plan will detail activities required to operate the SSDS, perform repairs, and a guideline to evaluate the effectiveness of system operations.

The SSDS maintenance program consists of an inspection and repair program for the system components. The Respondents will conduct a semi-annual inspection of the SSDS in the first year of operation, and annually thereafter, to ensure proper functionality. The inspection program will include visual inspections of the SSDS for deficiencies to verify that the system components are effectively performing their intended functions. The following forms will be included in the OM&M Plan:

- Inspection checklist
- Inspection Log
- Repair Log

3.3.4.2 MONITORING PROGRAM

A system start-up monitoring program will be conducted to document that the sub-slab beneath the entire area of concern has been depressurized. The system start-up monitoring program was detailed in Section 3.3.1 above, and consists of measuring digital manometer readings at suitable sub-slab soil vapor probe locations. Monitoring will also include measurement of vacuum in the permanent vacuum monitoring points, and discharge flows, as well as operation and maintenance checks of the system components. The Respondents will complete monitoring at least twice during the first 24 hours, weekly for the first month, and monthly for the first quarter following system start-up monitoring. Periodic monitoring will continue on an annual



basis, for the duration of the mitigation system operation. Monitoring results will be documented on a form or in a field log book.

Post-installation proficiency sampling

To verify that the SSDS is operating to reduce indoor air concentrations of VI contaminants to less than applicable criteria, the Respondents will complete post-installation proficiency sampling consisting of the collection of indoor air samples from locations next to SS Probes A and B. Indoor air samples will be collected, analyzed, and evaluated in accordance with the USEPA-modified Vapor Intrusion Investigation Work Plan (November 2011). Respondents will collect indoor air samples approximately 30 days and 365 days after system installation to document that TCE concentrations in indoor air are decreasing, with the ultimate goal of reducing the concentrations to less than USEPA Industrial IASLs for Mitigation, corresponding to a target ELCR of 10^{-5} or HI of 1 in indoor air. Indoor air sampling will be completed at a frequency of every five years from the SSDS system installation, provided the SSDS is still operational. The Respondents will provide the results and corresponding evaluation after each sampling event to USEPA within 30 days of receiving the complete set of preliminary analytical data.

If the indoor air sampling results are not below applicable IASLs, the Respondents will evaluate the performance of the SSDS and complete any necessary system modifications within 60 days of receiving validated analytical results. Following completion of system modifications, a follow-up indoor air sampling event will be completed within 30 days.

Quality Assurance/Quality Control (QA/QC) samples will be collected at the frequency specified in the USEPA-modified Vapor Intrusion Investigation Work Plan.

Property owners and tenants will be provided with a letter summarizing analytical data.

As detailed above, the Respondents will install two continuous explosive gas sensors within the building to document explosive gas concentrations in the indoor air, dependent upon the consent of the owner.

Should indoor air or sub-slab explosive gas concentrations increase to levels that exceed the relevant thresholds, additional mitigation measures will be evaluated for the S&J Precision building.



**CONESTOGA-ROVERS
& ASSOCIATES**

May 18, 2012

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Reference No. 038443-62

4.0 IMPLEMENTATION SCHEDULE

The following schedule is anticipated for this project:

	<i>Estimated Completion Date</i>
Task 1 – Pre-Design Communication Testing	4 weeks from approval
Task 2 – SSDS Design	8 weeks from approval
Task 3 – SSDS Installation	12 weeks from approval

The remedial alternatives for the Site as a whole, are discussed in the draft Streamlined Remedial Investigation and Feasibility Study Report for Operable Unit One (CRA, 2011) (OU1 RI/FS) and include the installation of a landfill cap over the entirety of OU1 with a passive landfill gas ventilation system. The OU1 RI/FS Report is currently under revision by USEPA. Section 2.4.2.2 of the draft OU1 RI/FS Report contains conceptual details for a passive LFG venting system. The details of the landfill gas mitigation system will be determined during the Remedial Design/Remedial Action (RD/RA) phase, based on a pre-design investigation. Any remedial alternative will include monitoring of the LFG mitigation system in accordance with the requirements of OAC 3745-27-12.

If you have any questions about the sampling results or the remedial activities underway at the Site, please contact me.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Adam Loney, B.Sc. Eng.

VC/cb/132
Encl.

cc: Ken Brown, ITW
Jim Campbell, Engineering Management, Inc.
Bryan Heath, NCR
Paul Jack, Castle Bay Inc.

TABLE 1

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: JANUARY 2012
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

Sample Location:	Parcel 5172/1 / A S&J		Parcel 5172/1 / A S&J		Parcel 5172/1 / B S&J		Parcel 5172/1 / C S&J		Parcel 5172/1 / D S&J		
Sample ID:	SS-38443-010612-JC-024		SS-38443-010612-JC-023		SS-38443-010612-JC-025		SS-38443-010612-JC-026		SS-38443-010612-JC-027		
Sample Date:	1/6/2012		1/6/2012		1/6/2012		1/6/2012		1/6/2012		
	USEPA Industrial SVSL for Further Investigation	USEPA Industrial SVSL for Further Investigation	Duplicate								
Parameter	Corresponding to a Target ELCR of 10 ⁻⁶ in Indoor Air Assuming a DAF=0.1	Corresponding to a Target HI of 0.1 in Indoor Air Assuming a DAF=0.1									
	g	h									
Volatile Organic Compounds											
1,1,1-Trichloroethane	-	22000	19 U	R	49 U		1.9 U		40		
1,1,2,2-Tetrachloroethane	2.1	-	27 U	R	70 U		2.7 U		8.3 U		
1,1,2-Trichloroethane	7.7	0.88	10 U	R	27 U		1.0 U		3.1 U		
1,1-Dichloroethane	77	-	14 U	R	36 U		1.4 U		4.3 U		
1,1-Dichloroethene	-	880	12 U	R	30 U		1.2 U		3.6 U		
1,2,4-Trichlorobenzene	-	8.8	37 U	R	95 U		3.7 U		11 U		
1,2,4-Trimethylbenzene	-	-	26 U	R	65 U		2.6 U		7.7 U		
1,2-Dibromoethane (Ethylene dibromide)	0.20	39	14 U	R	35 U		1.4 U		4.2 U		
1,2-Dichlorobenzene	-	880	29 U	R	74 U		2.9 U		8.7 U		
1,2-Dichloroethane	4.7	31	13 U	R	32 U		1.3 U		3.8 U		
1,2-Dichloroethene (total)	-	-	140	R	3100		2.6 J		1600		
1,2-Dichloropropane	12	18	6.5 U	R	17 U		0.65 U		1.9 U		
1,2-Dichlorotetrafluoroethane (CFC 114)	-	-	22 U	R	57 U		2.2 U		6.7 U		
1,3,5-Trimethylbenzene	-	-	25 U	R	64 U		2.5 U		7.5 U		
1,3-Butadiene	-	-	2.2 U	R	5.7 U		0.22 U		0.67 U		
1,3-Dichlorobenzene	11	3500	26 U	R	68 U		2.6 U		8.0 U		
1,4-Dichlorobenzene	11	3500	26 U	R	68 U		2.6 U		8.0 U		
1,4-Dioxane	-	-	32 U	R	81 U		3.2 U		9.5 U		
2,2,4-Trimethylpentane	-	-	17 U	R	43 U		1.7 U		5.1 U		
2-Butanone (Methyl ethyl ketone) (MEK)	-	22000	5.0 U	R	13 U		2.9 J		1.5 U		
2-Chlorotoluene	-	-	24 U	R	62 U		2.4 U		7.3 U		
2-Hexanone	-	130	16 U	R	41 U		1.7 J		4.8 U		
2-Phenylbutane (sec-Butylbenzene)	-	-	26 U	R	66 U		2.6 U		7.8 U		
4-Ethyl toluene	-	-	23 U	R	58 U		2.3 U		6.8 U		
4-Methyl-2-pentanone (Methyl isobutyl ketone)	-	13000	11 U	R	27 U		1.1 U		3.2 U		
Acetone	-	140000	27 J	R	98 J		5.8 J		6.6 J		
Allyl chloride	-	-	5.9 U	R	15 U		0.59 U		1.8 U		
Benzene	16	130	5.8 U	R	15 U		0.58 U		1.7 U		
Benzyl chloride	-	-	24 U	R	61 UJ		2.4 U		7.2 U		
Bromodichloromethane	3.3	-	19 U	R	48 U		1.9 U		5.6 U		
Bromoform	110	-	20 U	R	50 U		2.0 U		5.9 U		
Bromomethane (Methyl bromide)	-	22	4.7 U	R	12 U		0.47 U		1.4 U		
Butane	-	-	2.6 U	R	6.7 U		0.26 U		0.79 U		
Carbon disulfide	-	3100	21 U	R	53 U		2.1 U		6.2 U		
Carbon tetrachloride	20	440	21 U	R	53 U		2.1 U		6.2 U		
Chlorobenzene	-	220	9.2 U	R	24 U		0.92 U		2.8 U		
Chlorodifluoromethane	-	-	12 U	R	31 U		1.2 U		3.6 U		
Chloroethane	-	44000	4.2 U	R	11 U		0.42 U		1.3 U		

TABLE 1

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: JANUARY 2012
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

Sample Location:	Parcel 5172/1/A S&J		Parcel 5172/1/A S&J		Parcel 5172/1/B S&J		Parcel 5172/1/C S&J		Parcel 5172/1/D S&J		
Sample ID:	SS-38443-010612-JC-024		SS-38443-010612-JC-023		SS-38443-010612-JC-025		SS-38443-010612-JC-026		SS-38443-010612-JC-027		
Sample Date:	1/6/2012		1/6/2012		1/6/2012		1/6/2012		1/6/2012		
	USEPA Industrial SVSL for Further Investigation	USEPA Industrial SVSL for Further Investigation	Duplicate								
Parameter	Corresponding to a Target ELCR of 10 ⁻⁶ in Indoor Air Assuming a DAF=0.1	Corresponding to a Target HI of 0.1 in Indoor Air Assuming a DAF=0.1									
	g	h									
Chloroform (Trichloromethane)	5.3	430	43 J ^g	R	120 J ^g	3.8 J	120 ^g				
Chloromethane (Methyl chloride)	-	390	2.7 U	R	6.9 U	0.27 U	0.81 U				
cis-1,2-Dichloroethene	-	260	100	R	2300 ^h	2.6 J	970 ^h				
cis-1,3-Dichloropropene	31	88	7.3 U	R	19 U	0.73 U	2.2 U				
Cyclohexane	-	26000	13 U	R	34 U	1.3 U	4.0 U				
Cymene (p-Isopropyltoluene)	-	-	26 U	R	67 U	2.6 U	7.9 U				
Dibromochloromethane	4.5	-	18 U	R	46 U	1.8 U	5.4 U				
Dichlorodifluoromethane (CFC-12)	-	440	19 U	R	48 U	3.1 J	5.7 U				
Ethylbenzene	49	4400	9.6 U	R	24 U	0.96 U	2.9 U				
Hexachlorobutadiene	-	-	69 U	R	180 U	6.9 U	21 U				
Hexane	-	-	9.2 U	R	23 U	0.92 U	2.8 U				
Isopropyl alcohol	-	-	9.1 U	R	23 U	3.7 J	2.7 U				
Isopropyl benzene	-	1800	15 U	R	39 U	1.5 U	4.6 U				
m&p-Xylenes	-	440	21 U	R	53 U	2.1 U	6.3 U				
Methyl methacrylate	-	-	5.3 U	R	14 U	0.53 U	1.6 U				
Methyl tert butyl ether (MTBE)	470	13000	5.8 U	R	15 U	0.58 U	1.7 U				
Methylene chloride	12000	2600	14 J	R	12 U	1.5 J	4.7 J				
Naphthalene	3.6	13	45 U	R	120 UJ	4.5 U	14 U				
N-Butylbenzene	-	-	30 U	R	77 U	3.0 U	9.1 U				
N-Heptane	-	-	4.1 U	R	10 U	0.41 U	1.2 U				
N-Propylbenzene	-	-	25 U	R	63 U	2.5 U	7.4 U				
o-Xylene	-	440	9.6 U	R	24 U	0.96 U	2.9 U				
Styrene	-	4400	13 U	R	33 U	1.3 U	3.8 U				
tert-Butyl alcohol	-	-	22 U	R	55 U	2.2 U	6.5 U				
tert-Butylbenzene	-	-	26 U	R	66 U	2.6 U	7.8 U				
Tetrachloroethene	470	180	39 J	R	63 J	190 ^h	24 J				
Tetrahydrofuran	-	-	5.3 U	R	14 U	0.53 U	1.6 U				
Toluene	-	22000	6.8 U	R	17 U	17	21 J				
trans-1,2-Dichloroethene	-	260	35 J	R	850 ^h	1.3 U	590 ^h				
trans-1,3-Dichloropropene	31	88	9.1 U	R	23 U	0.91 U	2.7 U				
Trichloroethene	30	8.8	7100 ^{gh}	R	30000 ^{gh}	1200 ^{gh}	6300 ^{gh}				
Trichlorofluoromethane (CFC-11)	-	3100	19 U	R	49 U	1.9 U	5.7 U				
Trifluorotrichloroethane (Freon 113)	-	130000	7.7 U	R	20 U	0.77 U	2.3 U				
Vinyl bromide (Bromoethene)	-	-	8.3 U	R	21 U	0.83 U	2.5 U				
Vinyl chloride	28	440	7.4 U	R	19 U	0.74 U	2.2 U				
Xylenes (total)	-	440	9.6 U	R	24 U	0.96 U	2.9 U				

Gases

TABLE 1

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: JANUARY 2012
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

<i>Sample Location:</i>			<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/B S&J</i>	<i>Parcel 5172/1/C S&J</i>	<i>Parcel 5172/1/D S&J</i>
<i>Sample ID:</i>			SS-38443-010612-JC-024	SS-38443-010612-JC-023	SS-38443-010612-JC-025	SS-38443-010612-JC-026	SS-38443-010612-JC-027
<i>Sample Date:</i>			1/6/2012	1/6/2012	1/6/2012	1/6/2012	1/6/2012
	<i>USEPA Industrial SVSL for Further Investigation</i>	<i>USEPA Industrial SVSL for Further Investigation</i>	<i>Duplicate</i>				
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁶ in Indoor Air Assuming a DAF=0.1</i>	<i>Corresponding to a Target HI of 0.1 in Indoor Air Assuming a DAF=0.1</i>					
	<i>g</i>	<i>h</i>					
Ethane (%)	-	-	-	-	-	-	-
Ethene (%)	-	-	-	-	-	-	-
Helium (%)	-	-	-	-	-	-	-
Methane (%)	0.5	0.5	-	-	-	-	-
<i>Radiology</i>							
Radon-222 (pCi/L)	-	-	-	-	-	-	-
<i>Field Parameters</i>							
Methane, field (%)	0.5	0.5	0.0	-	0.0	0.0	0.0

Notes:

All concentrations are expressed in units of
 micrograms per cubic meter (µg/m³) unless
 otherwise noted.

[1] - Landtec GEM 2000 measurement with/without charcoal carbon filter

J - Estimated.

R - Rejected

U - Non-detect at associated value.

UJ - Estimated reporting limit.

-- Not applicable.

pCi/L - picoCuries per liter

ppm - parts per million

TABLE 2

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

<i>Sample Location:</i>	<i>Parcel 5172/1/A S&J</i>		<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/B S&J</i>	<i>Parcel 5172/1/C S&J</i>
<i>Sample ID:</i>	SS-38443-030712-JC-097		SS-38443-030712-JC-112	SS-38443-030712-JC-118	SS-38443-030712-JC-113	SS-38443-030712-JC-099
<i>Sample Date:</i>	3/7/2012		3/7/2012	3/7/2012	3/7/2012	3/7/2012
	<i>USEPA Industrial SVSL for Monitoring</i>	<i>USEPA Industrial SVSL for Monitoring</i>	<i>Duplicate</i>			
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air Assuming a DAF=0.1</i>	<i>Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1</i>				
	<i>i</i>	<i>j</i>				
Volatile Organic Compounds						
1,1,1-Trichloroethane	-	220000	-	11 U	12 U	36 U
1,1,2,2-Tetrachloroethane	21	-	-	29 U	30 U	93 U
1,1,2-Trichloroethane	77	8.8	-	21 U	21 U	65 U
1,1-Dichloroethane	770	-	-	7.4 U	7.4 U	23 U
1,1-Dichloroethene	-	8800	-	8.9 U	9.0 U	28 U
1,2,4-Trichlorobenzene	-	88	-	51 U	51 U	160 UJ
1,2,4-Trimethylbenzene	-	-	-	22 U	22 U	69 U
1,2-Dibromoethane (Ethylene dibromide)	2.0	390	-	24 U	24 U	75 U
1,2-Dichlorobenzene	-	8800	-	30 U	30 U	93 U
1,2-Dichloroethane	47	310	-	13 U	13 U	42 U
1,2-Dichloroethene (total)	-	-	-	-	-	-
1,2-Dichloropropane	120	180	-	17 U	17 U	53 U
1,2-Dichlorotetrafluoroethane (CFC 114)	-	-	-	16 U	16 U	50 U
1,3,5-Trimethylbenzene	-	-	-	22 U	23 U	71 U
1,3-Butadiene	-	-	-	9.9 U	10 U	31 U
1,3-Dichlorobenzene	110	35000	-	27 U	28 U	87 U
1,4-Dichlorobenzene	110	35000	-	27 U	27 U	85 U
1,4-Dioxane	-	-	-	20 UJ	20 UJ	64 UJ
2,2,4-Trimethylpentane	-	-	-	13 U	13 U	40 U
2-Butanone (Methyl ethyl ketone) (MEK)	-	220000	-	41 UJ	42 UJ	130 UJ
2-Chlorotoluene	-	-	-	23 U	23 U	72 U
2-Hexanone	-	1300	-	17 UJ	17 UJ	53 UJ
2-Phenylbutane (sec-Butylbenzene)	-	-	-	25 U	25 U	78 U
4-Ethyl toluene	-	-	-	23 U	23 U	72 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	-	130000	-	13 U	13 U	41 UJ
Acetone	-	1400000	-	230 U	230 U	740 U
Allyl chloride	-	-	-	11 U	11 U	33 U
Benzene	160	1300	-	13 U	13 U	40 U
Benzyl chloride	-	-	-	28 U	29 U	90 U
Bromodichloromethane	33	-	-	21 U	21 U	65 U
Bromoform	1100	-	-	35 U	35 U	110 U
Bromomethane (Methyl bromide)	-	220	-	8.7 U	8.8 U	28 U
Butane	-	-	-	11 U	11 U	44 J
Carbon disulfide	-	31000	-	6.8 U	6.8 U	21 U
Carbon tetrachloride	200	4400	-	17 U	17 U	53 U
Chlorobenzene	-	2200	-	16 U	16 U	50 U
Chlorodifluoromethane	-	-	-	9.2 U	9.2 U	65 J

TABLE 2

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO

Sample Location:	Parcel 5172/1/A S&J	Parcel 5172/1/A S&J	Parcel 5172/1/A S&J	Parcel 5172/1/B S&J	Parcel 5172/1/C S&J
Sample ID:	SS-38443-030712-JC-097	SS-38443-030712-JC-112	SS-38443-030712-JC-118	SS-38443-030712-JC-113	SS-38443-030712-JC-099
Sample Date:	3/7/2012	3/7/2012	3/7/2012	3/7/2012	3/7/2012
	USEPA Industrial SVSL for Monitoring	USEPA Industrial SVSL for Monitoring	Duplicate		
Parameter	Corresponding to a Target ELCR of 10 ⁻⁵ in Indoor Air Assuming a DAF=0.1	Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1			
	i	j			
Chloroethane	-	440000	-	6.5 U	21 U
Chloroform (Trichloromethane)	53	4300	-	46 J	150 J ⁱ
Chloromethane (Methyl chloride)	-	3900	-	23 U	73 U
cis-1,2-Dichloroethene	-	2600	-	91	2100
cis-1,3-Dichloropropene	310	880	-	24 U	75 U
Cyclohexane	-	260000	-	9.7 U	31 U
Cymene (p-Isopropyltoluene)	-	-	-	22 U	70 U
Dibromochloromethane	45	-	-	25 U	79 U
Dichlorodifluoromethane (CFC-12)	-	4400	-	24 U	75 U
Ethylbenzene	490	44000	-	21 U	66 U
Hexachlorobutadiene	-	-	-	58 U	180 UJ
Hexane	-	-	-	7.9 U	25 U
Isopropyl alcohol	-	-	-	7.6 UJ	24 UJ
Isopropyl benzene	-	18000	-	21 U	66 U
m&p-Xylenes	-	4400	-	37 U	120 U
Methyl methacrylate	-	-	-	23 U	72 U
Methyl tert butyl ether (MTBE)	4700	130000	-	43 U	140 U
Methylene chloride	120000	26000	-	17 J	66 J
Naphthalene	36	130	-	33 U	100 UJ
N-Butylbenzene	-	-	-	18 U	56 U
N-Heptane	-	-	-	14 U	43 U
N-Propylbenzene	-	-	-	19 U	61 U
o-Xylene	-	4400	-	19 U	59 U
Styrene	-	44000	-	17 U	55 U
tert-Butyl alcohol	-	-	-	8.1 U	26 U
tert-Butylbenzene	-	-	-	25 U	80 U
Tetrachloroethene	4700	1800	-	47 J	70 J
Tetrahydrofuran	-	-	-	13 U	41 U
Toluene	-	220000	-	14 U	45 U
trans-1,2-Dichloroethene	-	2600	-	26 J	800
trans-1,3-Dichloropropene	310	880	-	15 U	48 U
Trichloroethene	300	88	-	7600 J ⁱⁱ	7700 J ⁱⁱ
Trichlorofluoromethane (CFC-11)	-	31000	-	9.5 U	30 U
Trifluorotrichloroethane (Freon 113)	-	1300000	-	17 U	53 U
Vinyl bromide (Bromoethene)	-	-	-	11 U	34 U
Vinyl chloride	280	4400	-	13 U	40 U
Xylenes (total)	-	4400	-	-	-

TABLE 2

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

<i>Sample Location:</i>			<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/A S&J</i>	<i>Parcel 5172/1/B S&J</i>	<i>Parcel 5172/1/C S&J</i>
<i>Sample ID:</i>			SS-38443-030712-JC-097	SS-38443-030712-JC-112	SS-38443-030712-JC-118	SS-38443-030712-JC-113	SS-38443-030712-JC-099
<i>Sample Date:</i>			3/7/2012	3/7/2012	3/7/2012	3/7/2012	3/7/2012
	<i>USEPA Industrial SVSL for Monitoring</i>	<i>USEPA Industrial SVSL for Monitoring</i>			<i>Duplicate</i>		
	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air Assuming a DAF=0.1</i>	<i>Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1</i>					
<i>Parameter</i>	<i>i</i>	<i>j</i>					
<i>Gases</i>							
Ethane (%)	-	-	-	0.18 U	0.19 U	0.19 U	-
Ethene (%)	-	-	-	0.18 U	0.19 U	0.19 U	-
Helium (%)	-	-	-	-	-	-	-
Methane (%)	0.5	0.5	-	0.16 U	0.17 U	0.17 U	-
<i>Radiology</i>							
Radon-222 (pCi/L)	-	-	206 +/-10	-	-	-	355 +/-18
<i>Field Parameters</i>							
Methane, field (%)	0.5	0.5	-	0.0	0.0	0.0	-

Notes:

All concentrations are expressed in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise noted.

[1] - Landtec GEM 2000 measurement with/without charcoal carbon filter

J - Estimated.

R- Rejected

U - Non-detect at associated value.

UJ - Estimated reporting limit.

- - Not applicable.

pCi/L - picoCuries per liter

ppm - parts per million

TABLE 2

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

<i>Sample Location:</i>	<i>Parcel 5172 / 1 / C S&J</i>	<i>Parcel 5172 / 1 / D S&J</i>	<i>Parcel 5172 / 1 / D S&J</i>
<i>Sample ID:</i>	<i>SS-38443-030712-JC-115</i>	<i>SS-38443-030712-JC-102</i>	<i>SS-38443-030712-JC-117</i>
<i>Sample Date:</i>	<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial SVSL for Monitoring</i>	<i>USEPA Industrial SVSL for Monitoring</i>	
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air Assuming a DAF=0.1</i>	<i>Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1</i>	
	<i>i</i>	<i>j</i>	
<i>Volatile Organic Compounds</i>			
1,1,1-Trichloroethane	-	220000	2.0 J
1,1,2,2-Tetrachloroethane	21	-	4.2 U
1,1,2-Trichloroethane	77	8.8	2.9 U
1,1-Dichloroethane	770	-	1.1 U
1,1-Dichloroethene	-	8800	1.3 U
1,2,4-Trichlorobenzene	-	88	7.3 UJ
1,2,4-Trimethylbenzene	-	-	3.1 U
1,2-Dibromoethane (Ethylene dibromide)	2.0	390	3.4 U
1,2-Dichlorobenzene	-	8800	4.2 U
1,2-Dichloroethane	47	310	1.9 U
1,2-Dichloroethene (total)	-	-	-
1,2-Dichloropropane	120	180	2.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	-	-	2.2 U
1,3,5-Trimethylbenzene	-	-	3.2 U
1,3-Butadiene	-	-	1.4 U
1,3-Dichlorobenzene	110	35000	3.9 U
1,4-Dichlorobenzene	110	35000	3.8 U
1,4-Dioxane	-	-	2.9 UJ
2,2,4-Trimethylpentane	-	-	1.8 U
2-Butanone (Methyl ethyl ketone) (MEK)	-	220000	5.9 UJ
2-Chlorotoluene	-	-	3.3 U
2-Hexanone	-	1300	2.4 UJ
2-Phenylbutane (sec-Butylbenzene)	-	-	3.5 U
4-Ethyl toluene	-	-	3.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	-	130000	1.8 UJ
Acetone	-	1400000	33 U
Allyl chloride	-	-	1.5 U
Benzene	160	1300	1.8 U
Benzyl chloride	-	-	4.0 U
Bromodichloromethane	33	-	2.9 U
Bromoform	1100	-	5.0 U
Bromomethane (Methyl bromide)	-	220	1.2 U
Butane	-	-	1.5 U
Carbon disulfide	-	31000	0.97 U
Carbon tetrachloride	200	4400	2.4 U
Chlorobenzene	-	2200	2.3 U
Chlorodifluoromethane	-	-	3.3 J

TABLE 2

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO

<i>Sample Location:</i>	<i>Parcel 5172 / 1 / C S&J</i>	<i>Parcel 5172 / 1 / D S&J</i>	<i>Parcel 5172 / 1 / D S&J</i>
<i>Sample ID:</i>	<i>SS-38443-030712-JC-115</i>	<i>SS-38443-030712-JC-102</i>	<i>SS-38443-030712-JC-117</i>
<i>Sample Date:</i>	<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>

Parameter	USEPA Industrial SVSL for Monitoring	USEPA Industrial SVSL for Monitoring		
	Corresponding to a Target ELCR of 10^{-5} in Indoor Air Assuming a DAF=0.1	Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1		
	i	j		
Chloroethane	-	440000	0.92 U	-
Chloroform (Trichloromethane)	53	4300	3.4 J	-
Chloromethane (Methyl chloride)	-	3900	3.3 U	-
cis-1,2-Dichloroethene	-	2600	2.4 U	-
cis-1,3-Dichloropropene	310	880	3.4 U	-
Cyclohexane	-	260000	1.4 U	-
Cymene (p-Isopropyltoluene)	-	-	3.1 U	-
Dibromochloromethane	45	-	3.6 U	-
Dichlorodifluoromethane (CFC-12)	-	4400	3.4 U	-
Ethylbenzene	490	44000	3.0 U	-
Hexachlorobutadiene	-	-	8.3 UJ	-
Hexane	-	-	1.1 U	-
Isopropyl alcohol	-	-	1.9 J	-
Isopropyl benzene	-	18000	2.9 U	-
m&p-Xylenes	-	4400	5.2 U	-
Methyl methacrylate	-	-	3.2 U	-
Methyl tert butyl ether (MTBE)	4700	130000	6.1 U	-
Methylene chloride	120000	26000	2.8 J	-
Naphthalene	36	130	4.7 UJ	-
N-Butylbenzene	-	-	2.5 U	-
N-Heptane	-	-	1.9 U	-
N-Propylbenzene	-	-	2.8 U	-
o-Xylene	-	4400	2.6 U	-
Styrene	-	44000	2.5 U	-
tert-Butyl alcohol	-	-	1.2 U	-
tert-Butylbenzene	-	-	3.6 U	-
Tetrachloroethene	4700	1800	150	-
Tetrahydrofuran	-	-	1.9 U	-
Toluene	-	220000	2.0 U	-
trans-1,2-Dichloroethene	-	2600	2.0 U	-
trans-1,3-Dichloropropene	310	880	2.2 U	-
Trichloroethene	300	88	950 ^{ij}	-
Trichlorofluoromethane (CFC-11)	-	31000	1.6 J	-
Trifluorotrichloroethane (Freon 113)	-	1300000	2.4 U	-
Vinyl bromide (Bromoethene)	-	-	1.5 U	-
Vinyl chloride	280	4400	1.8 U	-
Xylenes (total)	-	4400	-	-

TABLE 2

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: MARCH 2012 SUB-SLAB SOIL VAPOR
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

<i>Sample Location:</i>	<i>Parcel 5172 / 1 / C S&J</i>		<i>Parcel 5172 / 1 / D S&J</i>	<i>Parcel 5172 / 1 / D S&J</i>
<i>Sample ID:</i>	<i>SS-38443-030712-JC-115</i>		<i>SS-38443-030712-JC-102</i>	<i>SS-38443-030712-JC-117</i>
<i>Sample Date:</i>	<i>3/7/2012</i>		<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial SVSL for Monitoring</i>	<i>USEPA Industrial SVSL for Monitoring</i>		
	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air Assuming a DAF=0.1</i>	<i>Corresponding to a Target HI of 1 in Indoor Air Assuming a DAF=0.1</i>		
<i>Parameter</i>	<i>i</i>	<i>j</i>		
Gases				
Ethane (%)	-	-	0.20 U	-
Ethene (%)	-	-	0.20 U	-
Helium (%)	-	-	-	-
Methane (%)	0.5	0.5	0.18 U	-
Radiology				
Radon-222 (pCi/L)	-	-	-	449 +/-22
Field Parameters				
Methane, field (%)	0.5	0.5	0.0	-

Notes:

All concentrations are expressed in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise noted.

[1] - Landtec GEM 2000 measurement with/without charcoal carbon filter

J - Estimated.

R - Rejected

U - Non-detect at associated value.

UJ - Estimated reporting limit.

-- Not applicable.

pCi/L - picoCuries per liter

ppm - parts per million

TABLE 3

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: MARCH 2012 INDOOR AIR
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

Sample Location:	Parcel 5172, SE Corner	Parcel 5172/1 Overstreet	Parcel 5172/1/S&J	Parcel 5172/1/1A_A S&J	Parcel 5172/1/1A_A S&J	Parcel 5172/1/1A_C S&J
Sample ID:	OA-38443-030712-JC-095	OA-38443-031512-JC-214	OA-38443-030712-JC-110	IA-38443-030712-JC-096	IA-38443-030712-JC-111	IA-38443-030712-JC-098
Sample Date:	3/7/2012	3/15/2012	3/7/2012	3/7/2012	3/7/2012	3/7/2012
	USEPA Industrial IASL for Mitigation	USEPA Industrial IASL for Mitigation				
Parameter	Corresponding to a Target ELCR of 10 ⁻⁵ in Indoor Air	Corresponding to a Target HI of 1 in Indoor Air				
	c	d				
Volatile Organic Compounds						
1,1,1-Trichloroethane	-	22000	-	0.16 U	-	0.16 U
1,1,2,2-Tetrachloroethane	2.1	-	-	0.42 U	-	0.42 U
1,1,2-Trichloroethane	7.7	0.88	-	0.29 U	-	0.29 U
1,1-Dichloroethane	77	-	-	0.11 U	-	0.11 U
1,1-Dichloroethene	-	880	-	0.13 U	-	0.13 U
1,2,4-Trichlorobenzene	-	8.8	-	0.73 U	-	0.73 UJ
1,2,4-Trimethylbenzene	-	-	-	0.31 U	-	1.9
1,2-Dibromoethane (Ethylene dibromide)	0.2	39	-	0.34 U	-	0.34 U
1,2-Dichlorobenzene	-	880	-	0.42 U	-	0.42 U
1,2-Dichloroethane	4.7	31	-	0.19 U	-	0.19 U
1,2-Dichloroethene (total)	-	-	-	-	-	-
1,2-Dichloropropane	12	18	-	0.24 U	-	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	-	-	-	0.22 U	-	0.22 U
1,3,5-Trimethylbenzene	-	-	-	0.32 UJ	-	0.50 J
1,3-Butadiene	-	-	-	0.14 U	-	0.14 U
1,3-Dichlorobenzene	11	3500	-	0.39 U	-	0.39 U
1,4-Dichlorobenzene	11	3500	-	0.38 U	-	1.7
1,4-Dioxane	-	-	-	0.29 U	-	0.29 UJ
2,2,4-Trimethylpentane	-	-	-	0.30 J	-	0.42 J
2-Butanone (Methyl ethyl ketone) (MEK)	-	22000	-	1.0 J	-	1.7 J
2-Chlorotoluene	-	-	-	0.33 U	-	0.33 U
2-Hexanone	-	130	-	0.24 U	-	0.24 UJ
2-Phenylbutane (sec-Butylbenzene)	-	-	-	0.35 U	-	0.35 U
4-Ethyl toluene	-	-	-	0.32 U	-	0.61 J
4-Methyl-2-pentanone (Methyl isobutyl ketone)	-	13000	-	0.18 U	-	25 J
Acetone	-	140000	-	6.0 J	-	13
Allyl chloride	-	-	-	0.15 U	-	0.15 U
Benzene	16	130	-	0.70	-	0.69
Benzyl chloride	-	-	-	0.40 U	-	0.40 U
Bromodichloromethane	3.3	-	-	0.29 U	-	0.29 U
Bromoform	110	-	-	0.50 U	-	0.50 U
Bromomethane (Methyl bromide)	-	22	-	0.12 U	-	0.12 U
Butane	-	-	-	2.5	-	6.0
Carbon disulfide	-	3100	-	0.097 U	-	0.097 U
Carbon tetrachloride	20	440	-	0.64 J	-	0.51 J
Chlorobenzene	-	220	-	0.23 U	-	0.23 U
Chlorodifluoromethane	-	-	-	1.4	-	3.0

TABLE 3

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 INDOOR AIR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

<i>Sample Location:</i>			<i>Parcel 5172, SE Corner</i>	<i>Parcel 5172/1 Overstreet</i>	<i>Parcel 5172/1/S&J</i>	<i>Parcel 5172/1/1A_A S&J</i>	<i>Parcel 5172/1/1A_A S&J</i>	<i>Parcel 5172/1/1A_C S&J</i>
<i>Sample ID:</i>			<i>OA-38443-030712-JC-095</i>	<i>OA-38443-031512-JC-214</i>	<i>OA-38443-030712-JC-110</i>	<i>1A-38443-030712-JC-096</i>	<i>1A-38443-030712-JC-111</i>	<i>1A-38443-030712-JC-098</i>
<i>Sample Date:</i>			<i>3/7/2012</i>	<i>3/15/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial IASL for Mitigation</i>	<i>USEPA Industrial IASL for Mitigation</i>						
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air</i>	<i>Corresponding to a Target HI of 1 in Indoor Air</i>						
	<i>c</i>	<i>d</i>						
Chloroethane	-	44000	-	0.092 U	0.092 U	-	0.092 U	-
Chloroform (Trichloromethane)	5.3	430	-	0.36 J	0.19 U	-	0.32 J	-
Chloromethane (Methyl chloride)	-	390	-	1.5	1.1	-	1.1	-
cis-1,2-Dichloroethene	-	260	-	0.24 U	0.24 U	-	0.31 J	-
cis-1,3-Dichloropropene	31	88	-	0.34 U	0.34 U	-	0.34 U	-
Cyclohexane	-	26000	-	0.22 J	0.14 U	-	0.72 J	-
Cymene (p-Isopropyltoluene)	-	-	-	0.31 U	0.31 U	-	0.31 U	-
Dibromochloromethane	4.5	-	-	0.36 U	0.36 U	-	0.36 U	-
Dichlorodifluoromethane (CFC-12)	-	440	-	2.3	2.6	-	2.4	-
Ethylbenzene	49	4400	-	0.30 U	0.30 U	-	0.74 J	-
Hexachlorobutadiene	-	-	-	0.83 U	0.83 UJ	-	0.83 UJ	-
Hexane	-	-	-	0.94 J	0.11 U	-	0.79 J	-
Isopropyl alcohol	-	-	-	1.9 J	0.26 J	-	61 J	-
Isopropyl benzene	-	1800	-	0.29 U	0.29 U	-	0.29 U	-
m&p-Xylenes	-	440	-	0.52 U	0.52 U	-	2.5	-
Methyl methacrylate	-	-	-	0.32 U	0.32 U	-	1.1 J	-
Methyl tert butyl ether (MTBE)	470	13000	-	0.61 U	0.61 U	-	0.61 U	-
Methylene chloride	12000	2600	-	0.83 U	0.50 J	-	1.6 J	-
Naphthalene	3.6	13	-	0.47 U	0.47 UJ	-	0.61 J	-
N-Butylbenzene	-	-	-	0.25 U	0.25 U	-	0.25 U	-
N-Heptane	-	-	-	0.38 J	0.19 U	-	7.7	-
N-Propylbenzene	-	-	-	0.28 U	0.28 U	-	0.28 J	-
o-Xylene	-	440	-	0.26 U	0.26 U	-	1.1	-
Styrene	-	4400	-	0.25 U	0.25 U	-	0.32 J	-
tert-Butyl alcohol	-	-	-	0.12 U	0.12 U	-	0.46 J	-
tert-Butylbenzene	-	-	-	0.36 U	0.36 U	-	0.36 U	-
Tetrachloroethene	470	180	-	0.39 J	0.27 U	-	4.2	-
Tetrahydrofuran	-	-	-	0.19 U	0.19 U	-	0.19 U	-
Toluene	-	22000	-	1.8	0.20 U	-	5.6	-
trans-1,2-Dichloroethene	-	260	-	0.20 U	0.20 U	-	0.33 J	-
trans-1,3-Dichloropropene	31	88	-	0.22 U	0.22 U	-	0.22 U	-
Trichloroethene	30	8.8	-	0.55 J	0.19 U	-	14 ^d	-
Trichlorofluoromethane (CFC-11)	-	3100	-	1.3	0.93 J	-	1.5	-
Trifluorotrichloroethane (Freon 113)	-	130000	-	0.62 J	0.24 U	-	0.51 J	-
Vinyl bromide (Bromoethene)	-	-	-	0.15 U	0.15 U	-	0.15 U	-
Vinyl chloride	28	440	-	0.18 U	0.18 U	-	0.18 U	-
Xylenes (total)	-	440	-	-	-	-	-	-

TABLE 3

SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
 ROUND 1: MARCH 2012 INDOOR AIR
 PARCEL 5172 BUILDING 1 - S+J PRECISION
 SOUTH DAYTON DUMP AND LANDFILL SITE
 MORaine, OHIO

<i>Sample Location:</i>			<i>Parcel 5172, SE Corner</i>	<i>Parcel 5172 / 1 Overstreet</i>	<i>Parcel 5172 / 1 / S&J</i>	<i>Parcel 5172 / 1 / IA_A S&J</i>	<i>Parcel 5172 / 1 / IA_A S&J</i>	<i>Parcel 5172 / 1 / IA_C S&J</i>
<i>Sample ID:</i>			OA-38443-030712-JC-095	OA-38443-031512-JC-214	OA-38443-030712-JC-110	IA-38443-030712-JC-096	IA-38443-030712-JC-111	IA-38443-030712-JC-098
<i>Sample Date:</i>			3/7/2012	3/15/2012	3/7/2012	3/7/2012	3/7/2012	3/7/2012
	<i>USEPA Industrial IASL for Mitigation</i>	<i>USEPA Industrial IASL for Mitigation</i>						
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air</i>	<i>Corresponding to a Target HI of 1 in Indoor Air</i>						
	<i>c</i>	<i>d</i>						
Gases								
Ethane (%)	-	-	-	-	-	-	0.22 U	-
Ethene (%)	-	-	-	-	-	-	0.22 U	-
Helium (%)	-	-	-	-	-	-	-	-
Methane (%)	0.05	0.05	-	-	-	-	0.19 U	-
Radiology								
Radon-222 (pCi/L)	-	-	0.14 +/-0.04	-	-	1.79 +/-0.09	-	1.98 +/-0.10
Field Parameters								
Methane, field (%)	0.05	0.05	-	0.0	0.0	-	0.0	-

Notes:

All concentrations are expressed in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise noted.

[1] - Landtec GEM 2000 measurement with/without charcoal carbon filter

J - Estimated.

R - Rejected

U - Non-detect at associated value.

UJ - Estimated reporting limit.

-- Not applicable.

pCi/L - picoCuries per liter

ppm - parts per million

TABLE 3

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 INDOOR AIR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

<i>Sample Location:</i>	<i>Parcel 5172/1/1A_C S&J</i>		<i>Parcel 5172/1/1A_D S&J</i>	<i>Parcel 5172/1/1A_D S&J</i>	<i>Parcel 5172/1/1A_D S&J</i>
<i>Sample ID:</i>	<i>IA-38443-030712-JC-114</i>		<i>IA-38443-030712-JC-100</i>	<i>IA-38443-030712-JC-116</i>	<i>IA-38443-030712-JC-101</i>
<i>Sample Date:</i>	<i>3/7/2012</i>		<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial IASL for Mitigation</i>	<i>USEPA Industrial IASL for Mitigation</i>			<i>Duplicate</i>
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air</i>	<i>Corresponding to a Target HI of 1 in Indoor Air</i>			
	<i>c</i>	<i>d</i>			
Volatile Organic Compounds					
1,1,1-Trichloroethane	-	22000	0.16 U	-	0.16 U
1,1,2,2-Tetrachloroethane	2.1	-	0.42 U	-	0.42 U
1,1,2-Trichloroethane	7.7	0.88	0.29 U	-	0.29 U
1,1-Dichloroethane	77	-	0.11 U	-	0.11 U
1,1-Dichloroethene	-	880	0.13 U	-	0.13 U
1,2,4-Trichlorobenzene	-	8.8	0.73 UJ	-	0.73 UJ
1,2,4-Trimethylbenzene	-	-	0.88 J	-	1.6
1,2-Dibromoethane (Ethylene dibromide)	0.2	39	0.34 U	-	0.34 U
1,2-Dichlorobenzene	-	880	0.42 U	-	0.42 U
1,2-Dichloroethane	4.7	31	0.19 U	-	0.19 U
1,2-Dichloroethene (total)	-	-	-	-	-
1,2-Dichloropropane	12	18	0.24 U	-	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	-	-	0.22 U	-	0.22 U
1,3,5-Trimethylbenzene	-	-	0.32 U	-	0.47 J
1,3-Butadiene	-	-	0.14 U	-	0.14 U
1,3-Dichlorobenzene	11	3500	0.39 U	-	0.39 U
1,4-Dichlorobenzene	11	3500	1.5	-	1.5
1,4-Dioxane	-	-	0.29 UJ	-	0.29 UJ
2,2,4-Trimethylpentane	-	-	0.28 J	-	0.45 J
2-Butanone (Methyl ethyl ketone) (MEK)	-	22000	1.1 J	-	1.9 J
2-Chlorotoluene	-	-	0.33 U	-	0.33 U
2-Hexanone	-	130	0.24 UJ	-	0.24 UJ
2-Phenylbutane (sec-Butylbenzene)	-	-	0.35 U	-	0.35 U
4-Ethyl toluene	-	-	0.38 J	-	0.72 J
4-Methyl-2-pentanone (Methyl isobutyl ketone)	-	13000	8.0 J	-	13 J
Acetone	-	140000	7.9 J	-	12
Allyl chloride	-	-	0.15 U	-	0.15 U
Benzene	16	130	0.56 J	-	0.68
Benzyl chloride	-	-	0.40 U	-	0.40 U
Bromodichloromethane	3.3	-	0.29 U	-	0.29 U
Bromoform	110	-	0.50 U	-	0.50 U
Bromomethane (Methyl bromide)	-	22	0.12 U	-	0.12 U
Butane	-	-	4.5	-	6.7
Carbon disulfide	-	3100	0.097 U	-	0.097 U
Carbon tetrachloride	20	440	0.49 J	-	0.47 J
Chlorobenzene	-	220	0.23 U	-	0.23 U
Chlorodifluoromethane	-	-	2.5	-	3.1

TABLE 3

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 INDOOR AIR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

<i>Sample Location:</i>	<i>Parcel 5172/1/1A_C S&J</i>		<i>Parcel 5172/1/1A_D S&J</i>	<i>Parcel 5172/1/1A_D S&J</i>	<i>Parcel 5172/1/1A_D S&J</i>
<i>Sample ID:</i>	<i>IA-38443-030712-JC-114</i>		<i>IA-38443-030712-JC-100</i>	<i>IA-38443-030712-JC-116</i>	<i>IA-38443-030712-JC-101</i>
<i>Sample Date:</i>	<i>3/7/2012</i>		<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial IASL for Mitigation</i>	<i>USEPA Industrial IASL for Mitigation</i>			<i>Duplicate</i>
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air</i>	<i>Corresponding to a Target HI of 1 in Indoor Air</i>			
	<i>c</i>	<i>d</i>			
Chloroethane	-	44000	0.092 U	-	0.092 U
Chloroform (Trichloromethane)	5.3	430	0.24 J	-	0.36 J
Chloromethane (Methyl chloride)	-	390	1.2	-	1.4
cis-1,2-Dichloroethene	-	260	0.24 U	-	0.37 J
cis-1,3-Dichloropropene	31	88	0.34 U	-	0.34 U
Cyclohexane	-	26000	0.27 J	-	0.54 J
Cymene (p-Isopropyltoluene)	-	-	0.31 U	-	0.33 J
Dibromochloromethane	4.5	-	0.36 U	-	0.36 U
Dichlorodifluoromethane (CFC-12)	-	440	2.5	-	2.8
Ethylbenzene	49	4400	0.41 J	-	0.72 J
Hexachlorobutadiene	-	-	0.83 UJ	-	0.83 UJ
Hexane	-	-	0.61 J	-	0.86 J
Isopropyl alcohol	-	-	33 J	-	74 J
Isopropyl benzene	-	1800	0.29 U	-	0.29 U
m&p-Xylenes	-	440	1.2	-	2.2
Methyl methacrylate	-	-	0.55 J	-	0.32 U
Methyl tert butyl ether (MTBE)	470	13000	0.61 U	-	0.61 U
Methylene chloride	12000	2600	1.4 J	-	1.4 J
Naphthalene	3.6	13	0.47 UJ	-	0.47 UJ
N-Butylbenzene	-	-	0.25 U	-	0.25 U
N-Heptane	-	-	2.4	-	4.1
N-Propylbenzene	-	-	0.28 U	-	0.28 J
o-Xylene	-	440	0.53 J	-	0.99
Styrene	-	4400	0.25 U	-	0.28 J
tert-Butyl alcohol	-	-	0.34 J	-	0.54 J
tert-Butylbenzene	-	-	0.36 U	-	0.36 U
Tetrachloroethene	470	180	2.8	-	4.5
Tetrahydrofuran	-	-	0.22 J	-	0.19 U
Toluene	-	22000	3.1	-	6.1
trans-1,2-Dichloroethene	-	260	0.20 U	-	0.35 J
trans-1,3-Dichloropropene	31	88	0.22 U	-	0.22 U
Trichloroethene	30	8.8	8.6	-	17 ^d
Trichlorofluoromethane (CFC-11)	-	3100	1.3	-	1.6
Trifluorotrichloroethane (Freon 113)	-	130000	0.48 J	-	0.57 J
Vinyl bromide (Bromoethene)	-	-	0.15 U	-	0.15 U
Vinyl chloride	28	440	0.18 U	-	0.18 U
Xylenes (total)	-	440	-	-	-

TABLE 3

**SUMMARY OF VAPOR INTRUSION ANALYTICAL RESULTS
ROUND 1: MARCH 2012 INDOOR AIR
PARCEL 5172 BUILDING 1 - S+J PRECISION
SOUTH DAYTON DUMP AND LANDFILL SITE
MORaine, OHIO**

<i>Sample Location:</i>	<i>Parcel 5172/1/IA_C S&J</i>		<i>Parcel 5172/1/IA_D S&J</i>	<i>Parcel 5172/1/IA_D S&J</i>	<i>Parcel 5172/1/IA_D S&J</i>
<i>Sample ID:</i>	<i>IA-38443-030712-JC-114</i>		<i>IA-38443-030712-JC-100</i>	<i>IA-38443-030712-JC-116</i>	<i>IA-38443-030712-JC-101</i>
<i>Sample Date:</i>	<i>3/7/2012</i>		<i>3/7/2012</i>	<i>3/7/2012</i>	<i>3/7/2012</i>
	<i>USEPA Industrial IASL for Mitigation</i>	<i>USEPA Industrial IASL for Mitigation</i>			<i>Duplicate</i>
<i>Parameter</i>	<i>Corresponding to a Target ELCR of 10⁻⁵ in Indoor Air</i>	<i>Corresponding to a Target HI of 1 in Indoor Air</i>			
	<i>c</i>	<i>d</i>			
Gases					
Ethane (%)	-	-	0.22 U	-	-
Ethene (%)	-	-	0.22 U	-	-
Helium (%)	-	-	-	-	-
Methane (%)	0.05	0.05	0.20 U	-	-
Radiology					
Radon-222 (pCi/L)	-	-	-	2.06 +/-0.10	-
Field Parameters					
Methane, field (%)	0.05	0.05	0.0	-	0.0

Notes:

All concentrations are expressed in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise noted.

[1] - Landtec GEM 2000 measurement with/without charcoal carbon filter

J - Estimated.

R - Rejected

U - Non-detect at associated value.

UJ - Estimated reporting limit.

-- Not applicable.

pCi/L - picoCuries per liter

ppm - parts per million